CONDITION

Jack-in-the-pulpit poisoning

Jack-in-the-pulpit poisoning is painful irritation caused by sharp calcium oxalate crystals in the plant.

WHAT IT IS
Poisoning from irritating crystals in a wild plant

BODY SYSTEM
Mouth, throat, digestive system, skin, and eyes

MAIN SYMPTOMS
Burning mouth pain, swelling, drooling, trouble swallowing

WHAT CAUSES IT
Contact with calcium oxalate crystal-containing plant tissue

HOW IT IS DIAGNOSED
Exposure history, examination, and plant identification

MAIN TREATMENT
Rinsing, symptom relief, and airway support if severe

CAN IT BE CURED?
Yes - irritation usually resolves completely

IS IT AN EMERGENCY?
Sometimes - trouble breathing or rapidly worsening mouth swelling

LONG-TERM OUTLOOK
Most people recover without lasting effects

Overview

Jack-in-the-pulpit poisoning happens after someone chews, eats, or sometimes handles part of the jack-in-the-pulpit plant. Its scientific name is Arisaema triphyllum . It grows in damp, shaded woodland areas in eastern North America and is also planted in gardens.

The plant contains bundles of calcium oxalate crystals called raphides. These microscopic, needle-shaped crystals are released when plant tissue is crushed. They pierce the moist surfaces of the mouth and throat, causing immediate pain and inflammation.

This is mainly an irritant poisoning rather than a poison that spreads throughout the body. The intense burning usually causes a person to spit out the plant before swallowing much. However, swelling can occasionally become serious if it affects breathing or makes swallowing impossible.

All parts of the plant should be considered unsafe to eat without specialized preparation. This includes the underground stem, sometimes called a corm, as well as the leaves, stems, flowers, and bright red berries. Traditional methods have been used to process the plant, but trying to prepare it as food at home is unsafe.

Symptoms

Symptoms usually begin immediately or within minutes of biting or chewing the plant. The severity is influenced by how much tissue was crushed, which part was involved, and how long it remained in contact with the mouth.

Common symptoms include:

A person may appear very distressed because the pain can be sudden and intense. Young children may cry, refuse drinks, or hold their mouth without being able to explain what happened.

Contact with broken plant tissue or sap can also irritate the skin. This may cause burning, redness, itching, or small blisters. Touching the eyes after handling the plant can cause severe eye pain, tearing, redness, and sensitivity to light.

Serious swelling of the tongue or throat is uncommon, but it may narrow the airway. Warning signs include noisy breathing, shortness of breath, a rapidly changing voice, or an inability to swallow saliva.

- Sharp burning or stinging in the lips, mouth, tongue, or throat
- Redness and swelling of the lips or tongue
- Drooling because swallowing hurts
- Hoarse voice or difficulty speaking
- Nausea, gagging, or vomiting
- Pain when swallowing

Causes and risk factors

The direct cause is contact with calcium oxalate crystals inside the plant. Cutting, crushing, biting, or chewing releases the crystals. Simply standing near the plant does not cause poisoning.

Jack-in-the-pulpit changes appearance during the growing season. Its hooded flower structure

gives the plant its name. Later, it may produce a cluster of berries that turns bright red. These berries can attract young children even though they contain the same irritating crystals.

Exposure is more likely when:

The plant's common name is not a reliable way to identify it. Other plants can look similar, and common names may differ between regions.

- A child puts an unfamiliar plant or berry in their mouth
- Someone mistakes the plant for edible woodland vegetation
- A gardener handles cut or damaged plants without protecting the skin
- Sap is transferred from the hands to the eyes or mouth
- Someone tries to use the plant as food or a home remedy

Diagnosis

There is no specific blood test that confirms jack-in-the-pulpit poisoning. Diagnosis is usually based on the sudden symptoms, a history of contact with the plant, and an examination of the mouth, throat, skin, or eyes.

A clear photograph of the plant may help a poison centre or plant expert identify it. Photographs should include the entire plant, leaves, stem, flower, or berries when possible. Do not handle the plant again just to take a picture.

If identification is uncertain, medical professionals may consider other causes of mouth swelling or pain. These include chemical burns, allergic reactions, infections, thermal burns, and exposure to a different poisonous plant.

Tests are usually unnecessary for mild mouth irritation. A person with severe symptoms may need monitoring of breathing, oxygen levels, hydration, or other signs of complications.

Treatment and management

The first step is to stop the exposure. Remove any visible plant pieces from the mouth, then rinse the mouth gently with water and spit it out. Do not induce vomiting. Vomiting can expose the mouth and throat again and may increase the risk of choking.

If the person is fully awake and can swallow normally, cool liquids or ice chips may soothe the mouth. Do not give anything by mouth if swallowing is difficult, the person is very drowsy, or breathing is affected.

Contact a poison centre for advice after a suspected ingestion. In the United States, Poison Control can be reached at 1-800-222-1222. Elsewhere, use the poison information service for your country or region. Keep the plant or a photograph available for identification, but avoid further direct contact.

For skin exposure, remove contaminated clothing and wash the skin with soap and running water. Avoid rubbing, which may work the crystals farther into the skin.

For eye exposure, begin rinsing immediately with clean, lukewarm running water. Continue for 15 to 20 minutes. Remove contact lenses if they come out easily, but do not delay rinsing to find or remove them.

Medical treatment is supportive, meaning it focuses on keeping the person comfortable and protecting breathing and hydration while the irritation settles. Treatment may include pain relief, fluids, nausea control, eye assessment, or monitoring for swelling. Severe airway swelling may require oxygen and procedures to keep the airway open.

Activated charcoal is not a routine home treatment for this exposure. It may be difficult to swallow and does not remove crystals already embedded in the mouth.

Complications

Most exposures cause short-lived local irritation and no lasting damage. Complications are more likely when a larger amount is chewed, swelling is severe, or the eyes are involved.

Possible complications include:

Severe airway obstruction is rare but requires emergency treatment. Persistent eye pain or blurred vision may indicate damage to the cornea, the clear front surface of the eye.

Jack-in-the-pulpit does not usually cause the kidney problems associated with swallowing large amounts of soluble oxalate chemicals. Its crystals mainly produce direct injury where they touch tissue.

- Dehydration from being unable or unwilling to drink
- Breathing difficulty from tongue or throat swelling
- Choking or inhaling plant material or vomit
- Injury to the surface of the eye
- Ongoing skin inflammation after sap exposure

Prevention

Jack-in-the-pulpit poisoning can usually be prevented by avoiding ingestion and contact with damaged plant tissue.

Teach children not to eat wild plants, leaves, roots, or berries, even when they see animals eating them. Supervise young children in wooded areas and gardens where unfamiliar plants grow.

When gardening, wear gloves while cutting, moving, or removing jack-in-the-pulpit. Wash your hands afterward and before touching your face. Clean tools that have plant sap on them.

Do not rely on a phone application alone to decide whether a wild plant is edible. Identification errors are possible. Avoid homemade food or remedies made from jack-in-the-pulpit, including preparations described as safe after cooking or drying.

If the plant grows where young children regularly play, consider placing a barrier around it or having it safely removed. Its red berries may be especially tempting.

Living with it and what to expect

Jack-in-the-pulpit poisoning is an acute event, not a long-term illness. Mouth pain often begins suddenly and then improves as the crystals are cleared and inflammation settles. Mild symptoms may ease over several hours, although tenderness or swelling can last longer.

Most people recover fully with rinsing, symptom relief, and observation. The exposure does not usually lead to recurring symptoms once the mouth, skin, or eyes have healed. It also does not make a person contagious.

Eating and drinking may be uncomfortable for a short time. Cool, soft foods may be easier once swallowing is safe. A return to usual food should be guided by comfort and the ability to swallow without coughing or choking.

More serious mouth, throat, or eye injuries can take longer to recover and may need follow-up. Lasting problems are not expected after most exposures, but no exact recovery time can be promised. Symptoms that are not steadily improving should be reassessed.

A previous exposure does not provide protection against another one. Contact with the plant again can cause the same immediate irritation.

When to get medical help

Call a poison centre promptly if someone has chewed or swallowed any part of

jack-in-the-pulpit. Poison specialists can help assess the plant, the amount involved, and the symptoms. Do not wait for symptoms if the plant cannot be identified with confidence.

Seek emergency help now for:

After eye exposure, start rinsing immediately. Get urgent medical advice if pain, redness, light sensitivity, or blurred vision continues after thorough rinsing.

Routine medical follow-up is appropriate when mouth pain or swelling is not steadily improving, drinking remains difficult, vomiting continues, or skin irritation persists. Young children and anyone with existing swallowing or breathing problems may need assessment sooner.

- Trouble breathing, noisy breathing, or a feeling that the throat is closing
- Rapidly worsening swelling of the tongue, lips, mouth, or neck
- Inability to swallow saliva or continuous drooling
- Fainting, confusion, severe weakness, or blue-grey lips
- Repeated choking or signs that plant material was inhaled

Common questions

Is jack-in-the-pulpit poisonous to touch?

Touching an intact plant may not cause symptoms, but broken tissue and sap can irritate the skin. Wear gloves when handling it, and wash exposed skin. Avoid touching your eyes or mouth until your hands have been cleaned.

What happens if my child eats a jack-in-the-pulpit berry?

The berry can release sharp calcium oxalate crystals that cause immediate mouth pain, swelling, drooling, or vomiting. Remove visible material, rinse the mouth, and contact a poison centre. Call emergency services if breathing or swallowing becomes difficult.

How long does jack-in-the-pulpit poisoning last?

Mild irritation often improves over several hours, but soreness and swelling can continue longer. Severe exposure or eye injury may take more time to heal. Symptoms that worsen or fail to improve need medical assessment.

Can you safely eat jack-in-the-pulpit after cooking it?

Traditional processing methods have been described, but ordinary home cooking may not reliably remove the risk. Do not eat or serve the plant based on an informal recipe or internet identification.

Are the red berries poisonous?

Yes. The bright red berries contain irritating calcium oxalate crystals. They should not be eaten and should be kept away from young children and pets.

Is this an allergic reaction?

Usually not. The burning and swelling mainly come from microscopic crystals directly injuring tissue. However, an allergic reaction or another condition can look similar. Breathing difficulty or rapidly worsening swelling is an emergency regardless of the cause.

Sources

- National Capital Poison Center. "Jack-in-the-pulpit: A plant with a bite."
- North Carolina State Extension Gardener Plant Toolbox. "Arisaema triphyllum."
- The Royal Children's Hospital Melbourne. "Clinical Practice Guidelines: Plant poisoning."
- Merck Manual Professional Edition. "Plant Poisoning."